

CLAIMS

What is claimed is:

1 1. A method of locking conduit data and an analyzer program
2 that analyzes the conduit data, the method including:
3 generating a first key;
4 associating the first key with both specific conduit data and a specific
5 copy of the analyzer program; and
6 generating a gatekeeper logic that, utilizing at least the first key,
7 prevents the specific copy of the analyzer program from
8 analyzing conduit data other than the specific conduit data.

1 2. The method of claim 1 wherein generating the first key includes
2 generating a random character sequence.

1 3. The method of claim 2 wherein the random character sequence is a
2 random number sequence.

1 4. The method of claim 1 wherein associating the first key with the
2 specific conduit data includes generating a second key utilizing the first key
3 and a characteristic value for a characteristic parameter representative of a
4 characteristic of the specific conduit data.

1 5. The method of claim 4 including, responsive to a modification of the
2 characteristic value, re-generating the second key utilizing the modified
3 characteristic value.

1 6. The method of claim 4 including incorporating the second key within
2 a header of a data file including the specific conduit data.

1 7. The method of claim 1 wherein associating the first key with the
2 specific copy of the analyzer program includes compiling the specific copy
3 of the analyzer program to incorporate the first key.

1 8. The method of claim 1 wherein generating the gatekeeper logic
2 includes associating the gatekeeper logic with the specific copy of the
3 analyzer program.

1 9. The method of claim 8 wherein associating the gatekeeper logic with
2 the specific copy of the analyzer program includes compiling the specific
3 copy of the analyzer program to incorporate the gatekeeper logic.

1 10. The method of claim 1 wherein generating the gatekeeper logic
2 comprises generating a Java-programming language application that is
3 incorporated within the specific copy of the analyzer program.

1 11. The method of claim 1 wherein a user of the analyzer program
2 supplies the specific conduit data to a supplier of the analyzer program, and
3 a locking of the specific conduit data to the specific copy of the analyzer
4 program occurs on a computer system of the supplier.

1 12. The method of claim 11 wherein the supplier provides the locked

2 specific conduit data and the specific copy of the analyzer program to the
3 user.

1 13. The method of claim 1 wherein a supplier of the analyzer program
2 supplies locking logic and the analyzer program to a user of the analyzer
3 program, and a locking of the specific conduit data to the specific copy of the
4 analyzer program occurs on a computer system of the user utilizing the
5 supplied locking logic and the supplied analyzer program.

1 14. The method of claim 1, wherein the conduit data includes logged
2 pipeline data collected from a pipeline.

1 15. The method of claim 14, wherein the pipeline is a gas pipeline.

1 16. The method of claim 14, wherein the pipeline is an oil pipeline.

1 17. The method of claim 14, wherein the pipeline is a sewer pipeline.

1 18. The method of claim 14, wherein the pipeline is a utility pipeline.

1 19. A method of executing an analyzer program to analyze conduit data
2 to which it is locked, the method including:

3 determining a first key associated with a specific copy of an analyzer
4 program;

5 determining a second key associated with specific conduit data;

6 determining a characteristic parameter representative of a

7 characteristic of the specific conduit data;
8 deriving a gate key utilizing the second key and the characteristic
9 parameter; and
10 allowing execution of the specific copy of the analyzer program to
11 analyze the specific conduit data if the gate key corresponds to
12 the first key.

- 1 20. A method of executing an analyzer program to analyze conduit data
- 2 to which it is locked, the method including:
 - 3 determining a first key associated with a specific copy of an analyzer
 - 4 program;
 - 5 determining a second key associated with specific conduit data;
 - 6 determining a characteristic parameter representative of a
 - 7 characteristic of the specific conduit data;
 - 8 deriving a gate key utilizing the first key and the characteristic
 - 9 parameter; and
 - 10 allowing execution of the specific copy of the analyzer program to
 - 11 analyze the specific conduit data if the gate key corresponds to
 - 12 the second key.

- 1 21. A method of distributing conduit data and an analyzer program that
- 2 analyzes the conduit data, the method including:
 - 3 providing a user of the analyzer program with a specific copy of the
 - 4 analyzer program and specific conduit data that are locked
 - 5 utilizing at least a first key; and
 - 6 providing the user of the analyzer program with a gatekeeper logic

7 that, utilizing at least the first key, allows the specific copy of
8 the analyzer program to analyze only the specific conduit data.

1 22. The method of claim 21 wherein providing the gatekeeper logic
2 includes compiling the specific copy of the analyzer program to include the
3 gatekeeper logic, and providing the user with the compiled specific copy of
4 the analyzer program.

1 23. The method of claim 21 wherein providing the specific copy of the
2 analyzer program and the specific conduit data includes associating the first
3 key with both the specific copy of analyzer program and the specific conduit
4 data.

1 24. The method of claim 23 wherein associating the first key with the
2 specific copy of the analyzer program includes compiling the specific copy
3 of the analyzer program to include the first key.

1 25. The method of claim 23 wherein associating the first key with the
2 specific conduit data includes determining a characteristic value for a
3 characteristic parameter representative of a characteristic of the specific
4 conduit data, generating a second key utilizing the first key and the
5 characteristic value, and including the second key within the specific conduit
6 data.

1 26. A method of distributing conduit data and an analyzer program that
2 analyzes the conduit data, the method including:

3 providing a user of the analyzer program with a specific copy of the
4 analyzer program;
5 providing the user of the analyzer program with a locking logic that
6 locks the specific copy of the analyzer program to selected
7 conduit data; and
8 providing the user of the analyzer program with a gatekeeper logic
9 that allows the specific copy of the analyzer program to
10 analyze only the selected conduit data.

1 27. A method of distributing conduit data and an application program
2 that accesses the conduit data, the method including:
3 locking a specific copy of the application program to specific conduit
4 data so that the specific copy of the application program is able
5 to access only the specific conduit data; and
6 distributing the locked specific copy of the application program and
7 specific conduit data to a user.

1 28. The method of claim 27 wherein locking the specific copy of the
2 application program to the specific conduit data includes generating a first
3 key that is associated with both the specific copy of the application program
4 and the specific conduit data.

1 29. The method of claim 28 wherein generating the first key comprises
2 generating a random key utilizing a random character generator.

1 30. The method of claim 28 wherein generating the first key comprises

- 2 generating a random number using a random number generator.
- 1 31. The method of claim 27 wherein locking the specific copy of the
2 application program to the specific conduit data includes generating a
3 second key that is associated with the specific conduit data, the second key
4 generated utilizing the first key and a first characteristic parameter
5 representative of a characteristic of the specific conduit data.
- 1 32. The method of claim 27 wherein locking the specific copy of the
2 application program to the specific conduit data includes generating a
3 gatekeeper application that allows utilization of the specific copy of the
4 application program when accessing the specific conduit data, and disallows
5 utilization of the application program when accessing other conduit data.
- 1 33. The method of claim 27 wherein locking the specific copy of the
2 application program to the specific conduit data includes compiling source
3 code for the application program, together with the first key and the
4 gatekeeper application, into compiled object code for the specific copy of the
5 application program.
- 1 34. The method of claim 32 including distributing the gatekeeper
2 application to the user, the gatekeeper application accessing at least the first
3 key for the purposes of allowing or disallowing utilization of the specific
4 copy of the application program.
- 1 35. The method of 34 wherein the gatekeeper determines a second

2 characteristic parameter representative of the characteristic of the specific
3 conduit data, generates a gate key utilizing the first key and the second
4 characteristic parameter, and compares the gate key to the second key for
5 the purposes of allowing or disallowing user utilization of the specific copy
6 of the application program.

1 36. The method of claim 27 wherein locking is performed by a locking
2 logic, and the method includes sending the specific conduit data from the
3 user to a software supplier, the software supplier executing the locking logic
4 to lock the specific copy of the application program to the specific conduit
5 data so that the specific copy of the application program is able to access
6 only the specific conduit data.

1 37. The method of claim 27 including sending the locked specific copy of
2 the application program and specific conduit data from the user to the
3 software supplier.

1 38. The method of claim 37 wherein sending comprises propagating the
2 specific conduit data over a communications network.

1 39. The method of claim 37 wherein sending comprises supplying the
2 software supplier with a physical storage medium that stores the specific
3 conduit data.

1 40. The method of claim 27 wherein locking is performed by a locking
2 logic, the method includes sending the locking logic and the application

3 program from a software supplier to the user, the user executing the locking
4 logic to lock the specific copy of the application program to the specific
5 conduit data so that the specific copy of the application program is able to
6 access only the specific conduit data.

1 41. The method of claim 40 including purging the locking logic from a
2 computer system of the user subsequent to the locking of the specific copy of
3 the application program to the specific conduit data.

1 42. The method of claim 40 wherein sending comprises propagating the
2 locking logic and the application program over a communications network.

1 43. The method of claim 40 wherein sending comprises supplying the
2 user with a physical storage medium that stores the locking logic and the
3 application program.

1 44. The method of claim 27, wherein the conduit data includes logged
2 pipeline data collected from a pipeline.

1 45. The method of claim 44, wherein the pipeline is a gas pipeline.

1 46. The method of claim 44, wherein the pipeline is an oil pipeline.

1 47. The method of claim 44, wherein the pipeline is a sewer pipeline.

1 48. The method of claim 44, wherein the pipeline is a bore hole.

- 1 49. The method of claim 44, wherein the pipeline is a drill hole.
- 1 50. A logic set for locking conduit data and an analyzer program that
2 analyzes the conduit data, the apparatus including:
3 first logic to generate a first key;
4 second logic to associate the first key with both specific conduit data
5 and a specific copy of the analyzer program; and
6 third logic to generate gatekeeper logic that, utilizing at least the first
7 key, prevents the specific copy of the analyzer program from
8 analyzing conduit data other than the specific conduit data.
- 1 51. The logic set of claim 50 wherein the third logic generates a second
2 key utilizing the first key and a characteristic value representative of a
3 characteristic of the specific conduit data, and associates the second key with
4 the specific conduit data.
- 1 52. The logic set of claim 50 wherein the first logic comprises a random
2 number generator.
- 1 53. The logic set of claim 50 wherein the second logic comprises a
2 compiler that compiles the specific copy of the analyzer program to
3 incorporate the gatekeeper logic.
- 1 54. The logic set of claim 50 wherein the second logic comprises a
2 compiler that compiles the specific copy of the analyzer program to

- 3 incorporate the first key.
- 1 55. The logic set of claim 50 wherein the third logic comprises a locking
2 routine.
- 1 56. An apparatus for locking conduit data and an analyzer program that
2 analyzes the conduit data, the apparatus including:
3 first means for generating a first key;
4 second means for associating the first key with both specific conduit
5 data and a specific copy of the analyzer program; and
6 third means for generating gatekeeper logic that, utilizing at least the
7 first key, prevents the specific copy of the analyzer program
8 from analyzing conduit data other than the specific conduit
9 data.
- 1 57. A logic set for executing an analyzer program to analyze conduit data
2 to which it is locked, the apparatus including:
3 first logic to identify a first key associated with a specific copy of an
4 analyzer program;
5 second logic to identify a second key associated with specific conduit
6 data;
7 third logic to determine a characteristic parameter representative of a
8 characteristic of the specific conduit data;
9 fourth logic to derive a gate key utilizing the second key and the
10 characteristic parameter; and
11 fifth logic to allow executing of the specific copy of the analyzer

12 program to analyze the specific conduit data if the gate key
13 corresponds to the first key.

1 58. A logic set for executing an analyzer program to analyze conduit data
2 to which it is locked, the method including:

3 first logic to identify a first key associated with a specific copy of an
4 analyzer program;

5 second logic to identify a second key associated with specific conduit
6 data;

7 third logic to determine a characteristic parameter representative of a
8 characteristic of the specific conduit data;

9 fourth logic to derive a gate key utilizing the first key and the
10 characteristic parameter; and

11 fifth logic to allow execution of the specific copy of the analyzer
12 program to analyze the specific conduit data if the gate key
13 corresponds to the second key.

1 59. An apparatus for executing an analyzer program to analyze conduit
2 data to which it is locked, the apparatus including:

3 first means for identifying a first key associated with a specific copy
4 of an analyzer program;

5 second means for identifying a second key associated with specific
6 conduit data;

7 third means for determining a characteristic parameter representative
8 of a characteristic of the specific conduit data;

9 fourth means for deriving a gate key utilizing the second key and the

10 characteristic parameter; and
11 fifth means for allowing execution of the specific copy of the analyzer
12 program to analyze the specific conduit data if the gate key
13 corresponds to the first key.

1 60. An apparatus for executing an analyzer program to analyze conduit
2 data to which it is locked, the method including:
3 first means for identifying a first key associated with a specific copy
4 of an analyzer program;
5 second means for identifying a second key associated with specific
6 conduit data;
7 third means for determining a characteristic parameter representative
8 of a characteristic of the specific conduit data;
9 fourth means for deriving a gate key utilizing the first key and the
10 characteristic parameter; and
11 fifth means for allowing execution of the specific copy of the analyzer
12 program to analyze the specific conduit data if the gate key
13 corresponds to the second key.

1 61. A machine-readable medium having a sequence of instructions stored
2 thereon that, when executed by a machine, cause the machine to perform the
3 steps of:
4 generating a first key;
5 associating the first key with both specific conduit data and a specific
6 copy of an analyzer program; and
7 generating gatekeeper logic that, utilizing at least the first key,

8 prevents the specific copy of the analyzer program from
9 analyzing conduit data other than the specific conduit data.

1 62. A machine-readable medium having a sequence of instructions stored
2 thereon that, when executed by a machine, cause the machine to perform the
3 steps of:

4 determining a first key associated with a specific copy of an analyzer
5 program;
6 determining a second key associated with specific conduit data;
7 determining a characteristic parameter representative of a
8 characteristic of the specific conduit data;
9 deriving a gate key utilizing the second key and the characteristic
10 parameter; and
11 allowing execution of the specific copy of the analyzer program to
12 analyze the specific conduit data if the gate key corresponds to
13 the first key.

1 63. A machine-readable medium having a sequence of instructions stored
2 thereon that, when executed by a machine, cause the machine to perform the
3 steps of:

4 determining a first key associated with a specific copy of an analyzer
5 program;
6 determining a second key associated with specific conduit data;
7 determining a characteristic parameter representative of a
8 characteristic of the specific conduit data;
9 deriving a gate key utilizing the second key and the characteristic

10 parameter; and
11 allowing execution of the specific copy of the analyzer program to
12 analyze the specific conduit data if the gate key corresponds to
13 the second key.

1 64. A machine-readable medium having a sequence of instructions stored
2 thereon that, when executed by a machine, cause the machine, in response to
3 a user request received over a communications network, to perform the
4 steps of:

5 automatically providing, over the communications network, a user of
6 the analyzer program with a specific copy of the analyzer
7 program and specific conduit data that are locked utilizing at
8 least a first key; and

9 automatically providing, over the communications network, the user
10 of the analyzer program with gatekeeper logic that, utilizing at
11 least the first key, allows the specific copy of the analyzer
12 program to analyze only the specific conduit data.

1 65. A machine-readable medium having a sequence of instructions stored
2 thereon that, when executed by a machine, cause the machine, in response to
3 a user request received over a communications network, to perform: he
4 steps of:

5 automatically locking a specific copy of an application program to
6 specific conduit data so that the specific copy of the application
7 program application program is able to access only the specific
8 conduit data; and

9 automatically distributing the locked specific copy of the application
10 program and specific conduit data to a user.

1 66. A method of locking a data and a program that processes the
2 data, comprising:
3 generating a first key;
4 associating the first key with the data and a copy of the program; and
5 generating a gatekeeper logic that, utilizing at least the first key,
6 prevents the copy of the program from processing data other
7 than the data associated with the first key.

1 67. The method of claim 66 wherein generating the first key includes
2 generating a random character sequence.

1 68. The method of claim 67 wherein the random character sequence is a
2 random number sequence.

1 69. The method of claim 66 wherein associating the first key with the data
2 includes generating a second key utilizing the first key and a characteristic
3 value for a characteristic parameter representative of a characteristic of the
4 data.

1 70. The method of claim 69 including, responsive to a modification of the
2 characteristic value, re-generating the second key utilizing the modified
3 characteristic value.

- 1 71. The method of claim 69 including incorporating the second key
2 within a header of a data file including the data.
- 1 72. The method of claim 66 wherein associating the first key with the
2 specific copy of the program includes compiling the copy of the program to
3 incorporate the first key.
- 1 73. The method of claim 66 wherein generating the gatekeeper logic
2 includes associating the gatekeeper logic with the copy of the program.
- 1 74. The method of claim 73 wherein associating the gatekeeper logic with
2 the copy of the program includes compiling the copy of the program to
3 incorporate the gatekeeper logic.
- 1 75. The method of claim 66 wherein generating the gatekeeper logic
2 comprises generating a Java-programming language application that is
3 incorporated within the copy of the program.
- 1 76. The method of claim 66 wherein a supplier of the program performs
2 locking of the data to the copy of the program, the data provided to the
3 supplier by a user.
- 1 77. The method of claim 76 wherein the supplier provides the copy of the
2 program and the data locked to the copy of the program to the user.
- 1 78. The method of claim 66 wherein a supplier of the program supplies a

- 2 locking logic and the copy of the program to a user, and a locking of the data
- 3 to the copy of the program occurs on a computer system of the user utilizing
- 4 the supplied locking logic and the supplied program.